

## PATENT COOPERATION TREATY

PCT

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JKH/MG/WSI10	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/02110	International filing date (day/month/year) 02/07/1999	Priority date (day/month/year) 02/07/1998
International Patent Classification (IPC) or national classification and IPC H04B1/62		
Applicant WIRELESS SYSTEMS INTERNATIONAL LTD et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26/01/2000	Date of completion of this report 09.10.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Katruff, M Telephone No. +49 89 2399 2440 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/02110

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1-26 as originally filed

### Claims, No.:

1-28 with telefax of 04/07/2000

### Drawings, sheets:

1/23-23/23 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**see separate sheet**

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 25-28.

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because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 25-28 are so unclear that no meaningful opinion could be formed (*specify*):

**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-24
	No:	Claims	none
Inventive step (IS)	Yes:	Claims	1-24
	No:	Claims	none
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	none

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Re Item I**

**Basis of the report**

**a) Claims 1, 21 and 24** are based on the corresponding original claims 1, 21, resp. 24, and the description on page 20, first paragraph and last paragraph - page 21, first paragraph and Figs. 13-15.

**b)** The word "our" in **claim 3**, second line, has been taken as a clerical error and read as "or", instead.

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

No opinion will be given for **claims 25-28** because they rely on references to the description and the drawings, contrary to the requirements of Rule 6.2(a) PCT. Moreover, they do not contain any technical feature contrary to Rule 6.3(a) PCT (see also PCT/GL/III-2.1).

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: US-A-5 770 971 (MCNICOL JOHN DUNCAN) 23 June 1998

D2: EP-A-0 544 117 (NEC) 2 June 1993

2. **Article 33(2) and (3) PCT**

**a)** The subject-matter of **claims 1, 21 and 24** of the present application is novel and involves an inventive step (Article 33(2) and (3) PCT) for the following reasons:

The subject-matter of **claims 1, 21 and 24** essentially differs from the prior art of D1 in that the predistorter arrangement comprises:

(i) error correction means for detecting the presence of specific orders of distortion derived from the pilot signal in the distorting element output signal

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to produce an error correction signal for controlling the processing of the input signal in the predistorter means

- b)** The problem to be solved by the present invention may therefore be regarded as how to improve a predistorter arrangement designed to compensate for intermodulation distortion.
- c)** The main advantage of the solution proposed in **claims 1, 21 and 24** is that it allows the predistorter to be fine tuned to achieve suppression of specific orders of distortion introduced by the distorting element (i.e. the amplifier).
- d)** D1 refers to a distortion compensation control for a power amplifier. The control arrangement makes use of a pilot signal and discloses all the other features of the application except for the detection of specific orders of the distortion. No indication regarding the claimed solution is given.

Document D2 refers to a linear amplifier performing distortion compensation control which also applies pilot signals to compensate for intermodulation distortions. Again, no indication regarding the detection of specific orders of the distortion is given.

- e)** **Claims 2-20, 22 and 23** are dependent on **claims 1, resp. 21** and as such also meet the requirements of the PCT with respect to novelty and inventive step.

**Re Item VII**

**Certain defects in the international application**

**1. Rule 6 PCT**

- a)** The independent **claims 1, 21 and 24** are not in the two-part form in accordance with Rule 6.3(b) PCT, with those features known in combination from the prior art (document D1) being placed in a preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in a characterising part (Rule 6.3(b)(ii) PCT).

Nor has the applicant ensured that it is clear from the description which features of

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the subject-matter of the independent claims are known from document D1 (see the PCT Guidelines PCT/GL/III, 2.3 a).

**b)** The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).